

CURVE OF THE RAIL will disappear when the rail is positioned between the bolts of Sandia's new 5,000-ft. sled track in Area III. Inspecting a newly welded rail joint are Bill Kampfe (left) and Marv Timmerman (both 7344). The 39-foot rail sections are welded using a pressure-fusion process and then ground smooth. The new track should be operational in November 1966.

Two 5,000-ft. Rails

New Sled Track in Area III

Halfway mark was reached last week in the construction of Sandia's new 5000-foot rocket sled track in Area III. The foundation contains more than 3000 cubic yards of 6000-psi concrete poured over 560 tons of reinforcing steel.

Work started on the track in September 1965. It should be operational by November 1966.

W. R. Kampfe and K. M. Timmerman of Track and Guns Division 7344, inspected the track last week. Mr. Kampfe is the Division 7344 project leader for operation of the new track. Mr. Timmerman prepared the conceptual requirements for the track while assigned to Facility Engineering Division 7311. C. M. Morrisett (4543) is the Plant Engineering Department structural design project engineer. E. L. Drake (4543) and C. K. Rudy (4542) are the Plant Engineering Department mechanical and electrical engineers for the track design.

The new track will have several unique features which will make it one of the most advanced rocket sled facilities in the country. Although not long (the Holloman track is seven miles in length), the 5000-foot length of Sandia's new track will be sufficient for most of the component test programs required by our laboratories. Mr. Kampfe estimates that speeds up to 5500 feet per second, or Mach 5, should be possible on the new track with present monorail sled designs.

The foundation of the new track provides for the conventional water trough (used for braking) between the rails plus an additional trough on one side which will permit water-probe braking of monorail sleds with water up to the top of the rail.



SLED TRACK RAILS will be secured by bolts and clips. The troughs (left and center) will permit water braking by probes from monorail sleds.

Braking considerations also accounted for the four-inch-per-1000-foot drop of the track from a level line. As water fills the troughs, it will be shallow at the launch end and gradually get deeper toward the impact end of the track. The braking probes from the sleds then will enter the water gradually and meet deeper water as the sled progresses down the track for a gradual, controlled stop. The same effect is achieved now on conventional tracks by building a series of dams in the water trough and filling the sections at different levels, a time-consuming process.

The new track will save more time in the water filling and draining operations. Fill and drain receptacles will be located every 250 feet along the track. It will be possible to fill the track within three hours, as compared with 12 hours needed for the old Sandia track.

The separation or gauge of the two rails is 22 inches on the new track. (The gauge on the old track is $56\frac{1}{2}$ inches, and on the Holloman track is 84 inches). This smaller gauge will permit design of dual rail sleds with small frontal areas (with less aerodynamic drag like monorail sleds), yet will provide strength and stability to support sled loads up to 40,000 lbs. Sleds for a smaller gauge track are also less expensive to fabricate and to propel.

Sandia's new track will replace the old 3000-foot track which has been in continuous use since July 1954. The Laboratory will, however, continue to use the seven-mile track at Holloman for special high speed tests. (Sandia achieved Mach 5.4 on the Holloman track last June in a three-stage telemetered sled. Mach 7 sleds are under development.)

Another feature of the new track is an underground concrete instrumentation bunker which will be located about 50 feet from the impact area. Personnel can safely remain inside the bunker during tests to monitor operation of the recording instruments.

The control building for the new track will be located about 100 yards from the launch point. It will be of reinforced concrete construction, and contain about 2000 square feet of space including a high bay area used for sled assembly operations.

Power and control stations will be spaced along the track at approximately 250-ft. intervals to provide flexibility for operational control of tests.

Workmen are currently welding together the 39-foot lengths of rail. This is a pressure-fusion process assuring a high strength joint. After welding, the joint is ground and polished. When complete the two 5000-foot steel rails will weigh 285 tons.

SANDIA CORPORATION

LAB NEWS

PRIME CONTRACTOR TO THE ATOMIC ENERGY COMMISSION / ALBUQUERQUE, NEW MEXICO /LIVERMORE, CALIFORNIA



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Sandia Conducting Safety Studies On Two Isotopic Space Generators

Safety studies of a radioisotopic generator to be placed on the moon and another isotopic power unit for use in the Nimbus weather satellite program are being conducted by Sandia's Aerospace Nuclear Safety Department 9310. Both SNAP (Systems for Nuclear Auxiliary Power) units convert radioactive decay heat to electricity

SNAP-27 will provide a 50-watt isotopic power unit for the Apollo Lunar Surface Experiment Package to be placed on the moon by astronauts. The plutonium-238-fueled unit will operate for at least one year on the lunar surface.

General Electric Company's Missile and Space Division at Valley Forge, Pa., is developing the SNAP-27 for the Atomic Energy Commission. The first flight quality fueled unit is scheduled to be delivered to National Aeronautics and Space Administration by mid-1967.

The other power unit undergoing safety studies is the SNAP-19 (reported in the LAB NEWS of Dec. 3, 1965). This 30-watt plutonium-238-fueled improved version of SNAP-9A is being developed for use in the Nimbus weather satellite program. The first scheduled use of SNAP-19 is for Nimbus-B in 1967 in which two generators will provide 50 electrical watts for supplementary power.

Martin Company of Baltimore, Md., will build the SNAP-19 generators for the AEC. The first fueled prototype system is scheduled for delivery in 1966.

A series of SNAP-27 capsule drop tests for General Electric was recently completed at Sandia's Tonopah Test Range. The purpose of the tests was to determine capsule terminal velocity and to evaluate capsule stability with various initial conditions of release.

The safety approach for the SNAP-27 requires containment of the nuclear fuel (plutonium-238) under all conditions in which release of the fuel would involve a significant risk to the public. In keeping with this safety approach, the fuel is contained within a sealed capsule.

The fuel capsule will be transported to the lunar surface in a specially designed cask attached to the Lunar Excursion Module (LEM). After successful lunar landing of the LEM, the astronauts will place the Surface Experiment Package and the SNAP-27 generator (less fuel capsule) in place on the moon's surface. Using a special handling tool, the astronauts will



INERT SNAP-27 FUEL CAPSULE model is held by F. L. Baker (9312).

then remove the fuel capsule from the shipping cask and insert it in the generator. Heat from the fuel capsule will then be converted directly into electricity by an assembly of thermoelectric elements.

The decision to ship the fuel capsule to the lunar surface separate from the generator was made primarily to preclude the necessity of the astronauts having to place the generator on the lunar surface while the generator is thermally hot. Another advantage of the separate shipping approach is that it allows greater design latitude in providing containment of the fuel capsule in the event of a mission abort.

Sandia's safety evaluation program is concerned with all phases of the mission. Because the safety approach is basically that of fuel containment, particular emphasis is being given to any abnormal environments that might jeopardize such containment. Some of these environments include fireball exposure resulting from pad abort, re-entry heating, capsule impact, immersion of capsule in seawater following postlaunch abort, and possible soil burial

Advantages of Investing in Savings Bonds Will Be Stressed During Drive

Kickoff date for the 1966 U. S. Savings Bond drive at Sandia Laboratory is April 26 with a target of 90 percent employee participation in the payroll savings plan.

On Dec. 1, 1965, the interest rate on Series E Bonds was increased from 3.75 to 4.15 percent, compounded semiannually, when held to maturity. This means that E Bonds purchased on or after that date will mature in only seven years, instead of the former seven years, nine months.

All other features of U. S. Savings Bonds continue unchanged. An excellent investment before, they are an even better one now

Savings Bonds are backed by the full faith and credit of the U. S. Government and are as secure as America itself. In addition, U. S. Savings Bonds are not subject to market fluctuation.

Series E Bonds can be redeemed at any time after a two-month holding period. There are more than 25,000 authorized agents (banks and savings and loan associations) throughout the nation ready to

cash bonds upon proper identification.

Savings Bonds also offer tax advantages. While interest is subject to Federal income tax, the reporting of E Bond interest may be deferred until the bonds are cashed or reach final maturity. This means the owner can choose to cash his bonds and report the interest in years of lower income. Moreover, Savings Bonds are completely exempt from State and local income and property taxes.

Under the payroll savings plan, the employee specifies the amount to be deducted each pay period toward the purchase of bonds. Often this is money that would otherwise be spent.

D. R. Morrison (5256) is chairman of Sandia's 1963 Savings Bond Committee and W. A. Doyle (3242) is committee secretary. Other members of the committee are C. W. Jennings (1133), Mrs. Janice Sharp (2234), T. D. Harrison (2514), R. N. Reed (3151), M. Montegane (3242), D. D. Wader (4234), Tony Chavez (4631), L. E. Lamkin (7300), and R. Lynes (9413).

Editorial Comment

Sandia Safety Shoes for Spring

Summer is coming. Along with things turning green comes the mountain of chores to perform around the yard. And you'll be mowing your lawn all summer.

It's a good time to buy safety shoes, the best protection your toes can have while on the job or working around the house and yard.

They are vital when using a power mower. Last summer, the LAB NEWS reported an incident where an employee's toes were saved by safety shoes when a power mower accidentally crossed over his foot. The safety shoe was pretty well chewed up, but the foot was completely protected.

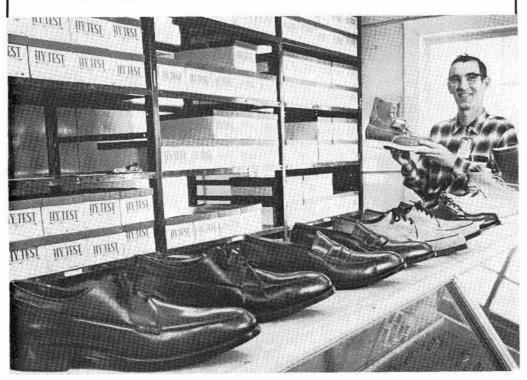
In the interests of safety and because of the very limited number of local stores which handle safety shoes, there is a Sandia Safety Store located in Bldg. 857. A variety of styles of safety shoes are available. Dress oxfords, loafers, casual pigskin styles, and high top boots all have the protective steel toe. They look good, wear a long time, and they could save you from a serious, painful injury.

The shoes come in standard sizes but special sizes can be ordered according to Wayne McCrory of Safety Engineering Division 3211, who has operated the Safety Store since 1959.

What about those who do not wear safety shoes? Wayne says that any home owner who works around the

yard needs the protection of safety shoes.

Visit the store any time during normal working hours, Monday through Friday.



WAYNE McCRORY (3211) displays steel-toed line for Spring, now available in the Sandia Safety Store in Bldg. 857.

New AEC Post in Sandia Area Office Filled by H. N. Meyer

Henry Ned Meyer Jr. has been appointed Assistant Area Manager for Operations in the Atomic Energy Commission's Sandia Area Office.

The area office administers the Commission's con-

for work carried out in Albuquerque, California, and Nevada; and also administers certain Department of Defense support agreements for laboratory assignments. The position of Assistant Area Manager for Operations was established recently because of new responsibilities assigned to the AEC and Sandia in the space isotope power program, under which isotope-pow-

and lunar missions. Sandia was selected to provide technical direction for the AEC's rapidly expanding space isotope program early this year. Sandia's responsibilities in the program are centered in the recently-created Isotope Power Department 9330.

ered systems will be developed for space

Mr. Meyer had been Chief of the Nuclear Branch, Quality Assurance Division, in the AEC's Albuquerque Operations Office since September 1964. Before that he held various positions in the Commission's technical programs since joining the AEC in July 1951.

A native of Springfield, Mo., he received his BS degree in mechanical engineering from Purdue University. He served in the U.S. Navy, June 1943-December 1945, as an aviation cadet and naval aviator.

WCA Banquet Features Tall Stories, Game Menu

Like to listen to "tall" stories? If so, plan to attend Liars Banquet on April 14, sponsored by Albuquerque chapter of the Wildlife and Conservation Association

Three or four of the top story spinners in the city will be there to tell their best experiences, and the menu will feature barbecued elk, roast buffalo, and mountain trout, according to program chairman Lee

This is WCA's main fund-raising event and tickets are available from Sandians Fred Gross, Dick Illing, Art Arenholz, and Lee Heames, all of whom are WCA officers

The banquet will be held at 7 p.m. at the VFW Hall, 4510 Lomas Blvd. NE.

The group is affiliated with the New Mexico Wildlife and Conservation Association and works closely with the State Game and Fish Department and the National Forest Service in carrying out conservation measures.

Welcome Newcomers

Albuquerque

Mar. 21 - Apr. 1

Gilbert R. Apodaca	4574
John E. Cronin	45/4
Geronimo Fragua	4574
Wynn L. Harlan	4135
Barbara L. Jessen	
Lynn W. Kennedy	
Edna P. Lee	
Richard W. Lynch	5132
Barbara A. McMurrough	3154
Esquipula Narvaez	4574
Arthur A. Sena	3415
Carole A. Umlauf	3126
Colorado	
Larry R. Schmueser, Pueblo	2212
Larry D. Young, Pueblo	2212
Ohio	
James Lee Mark, Columbus	9325

JTF-2 'Target Acquisition' Tests to Start in June in Arkansas Area

Joint Task Force Two's "Target Acquisition" Test 4.1 is scheduled to begin about June 1 in a 3500-square-mile test area south of Ft. Smith, Ark. Personnel of Sandia's Systems Evaluation Department 9210. which provides scientific and technical assistance to Joint Task Force Two, have been in the area several weeks now installing newly-developed Ground Site Instrumentation Packages (GSIP) at the target areas and other instrumentation gear at the test control center which will be located in Mena, Ark.

The first JTF-2 field tests were conducted along a marked course at Tonopah Test Range last year. In the Arkansas tests, the Air Force, Navy, and Marine Corps pilots will receive a briefing, navigate to the target area, recognize their target, and attack while flying at low altitudes to escape radar detection. As at Tonopah, the fighter, reconnaissance, and bomber aircraft will carry Sandia-designed instrumentation pods, and C-130 aircraft with additional instrumentation will fly at high altitudes in "orbits" around the test area recording the environmental and performance parameters of the test aircraft.

The new GSIP stations, however, will record new kinds of data. They will measure, for instance, the first moment the aircraft becomes visible at the target area and the moment when the target should be visible to the pilot of the aircraft. This is done through the use of a microwave radio frequency line-of-sight signal. In addition to this measurement, the GSIP record timing signals from the main control station, retransmit the radar signal received from the instrumentation pod carried by the aircraft, make three different light measurements-illumination from the sun and the sky, changes in visibility from the target along the approach path of the oncoming aircraft, and the sky/background ratio-and convert analog information to digital form.

The GSIP, developed by Instrumentation Systems Division 9211 under T. A. Sellers, are portable, rugged, and waterproof. They can be used on the ground, in an aircraft, or on a ship.

The GSIP can also be programmed to record reaction time of ground anti-aircraft missile crews. Some of the test flights will include defense aspects against low level aircraft attacks.

During the test period from June

Conservationists Hear Grand Canyon Briefing

Local members of the Sierra Club and others interested in conservation measures endured a 16-hour bus trip March 30 to spend a few hours discussing the two proposed dams in the Grand Canyon with reporters and writers from throughout the West.

The 22 Albuquerque residents on the chartered bus included George Steck (5623), who arranged the trip, L. G. Holcomb (1314), G. L. Simmons (5612), Virgil Erbert (5612), G. B. Lenert (4543), and W. F. Stamm (4543). They were joined at the Grand Canyon's El Tovar Lodge by other conservation supporters from Los Alamos, Las Cruces, Denver, Phoenix, and other western cities.

Some 50 reporters attended the twoday session, under auspices of READER'S on the proposed dams in its current (April)

The Bureau of Reclamation, an agency of the U.S. Department of Interior, has proposed the dams in Marble Canyon and Lower Granite Gorge, both on the main stem of the Colorado River and in Grand Canyon proper. The plans are included in the Central Arizona Project, part of the Pacific Southwest Water Plan; however, these two particular structures are intended to generate hydroelectric power rather than to divert water to needed areas.

Opponents of the proposed dams object to any tampering with the natural wonders of the Grand Canyon. They also question the cost of obtaining hydroelectric power from this means in view of the steadily lower cost of power from fossil fuel or nuclear sources.

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through September, as many as 15 flights per day will be made. A few night flights may be scheduled.

Targets will be simulated bridges, airfields, fuel dumps, or radar sites. All flights will be below the speed of sound, ranging from 200 to more than 600 mph. Aircraft will be flying less than 500 feet above the ground.

With the data collected from these tests, Joint Task Force Two will be able to evaluate the effectiveness of low level penetration techniques. The information will also be useful in planning future needs.

J. J. Miller, supervisor of Test Operations and Facilities Division 9214, will be Sandia's field test director during the tests. D. G. Beatson (9214) and J. T. Lannon (9211) will be in charge of range operations at Mena. Bill Johnson (9214) and V. M. Brewster (9214) will be in charge of the pod crew at England Air Force Base. W. H. Everhart (9214), L. E. Horner (9214), and J. A. Laster (9211) will work with the C-130 instrumentation aircraft operating from Ft. Smith. About 50 Sandians will participate in the test operations.



Maria Barela (3126)

Take A Memo, Please

Take a fresh approach to safety: a second look at ordinary items used every day might disclose a hazardous condition.

SANDIA CORPORATION

LAB NEWS



ALBUQUERQUE, NEW MEXICO . LIVERMORE, CALIFORNIA

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SAFETY CONTEST AWARD was presented to SCLL during the 14th Annual California Safety Congress sponsored by the National Safety Council Chapters in the Bay Area. At the industrial awards dinner which highlighted the two-day Congress are (I to r) C. W. Dreyer, Managing Director, Eastbay Chapter of the National Safety Council, whose office presented the award; G. L. Rhodes, supervisor, Safety Division 8215; and F. J. Maloney, supervisor, Environmental Test Division I, 8112.

Livermore Laboratory Earns Safety Award

F. J. Maloney, supervisor of Environmental Test Division I, 8112, accepted a safety "major award" certificate on behalf of Livermore Laboratory during the 14th Annual California Safety Congress held in San Francisco, March 9-10.

The presentation was made at the industrial awards dinner which highlighted the two-day Congress sponsored by the National Safety Council chapters in the Bay Area.

Sandia received the certificate as a major winner in the 1965 Business and Industrial Safety Contest. The award was made for attaining the lowest accident frequency rate in the 1,200,000 to 2,000,000 man-hours-worked group for the entire Bay Area. Sandia also achieved the lowest accident frequency rate in the newly-established Research and Development category of the contest.

This was the third major award presented to the Laboratory by the Bay Area chapters of the National Safety Council for achievement in accident prevention.

The previous awards were won in 1963 and

Livermore Notes . . .

Two follow-up seminars covering procurement policies and practices, entitled "Procurement and the Technical Man," are scheduled for April 20-22 and April 25-27. Participants include supervisors, staff members, and staff assistants in the 8100 organization and order and stock analysts, shop coordinators, and property clerks in the 8200 organization who are connected with the purchasing function.

The seminars were offered last spring and again this past fall. R. R. Davies and R. T. Lassiter of Purchasing Administration Division 4332 and J. Danclovic of Organization and Management Development Division 3131 will again conduct the sessions. F. E. Abbott, Director of Requirements and Facilities Division, AEC/ALO, will present and discuss the integrated contractor aspects involved with procurement.

Mt. Diablo Subsection of ASME will hold its April meeting on the 14th at the Castlewood Country Club. Dr. Arthur T. Biehl, LRL, will speak on "Rocket Small Arms."

Social hour begins at 6 p.m., followed by dinner and the meeting at 7. For reservations or further information, contact Del Elliott (8154), ext. 2688, or Louie Tallerico (8155), ext. 2870.

Reduced admission tickets on a first-come, first-served basis are available from Employee Benefits for the 1966 California Spring Garden Show, "Symphony of Flowers." to be held April 23 to May 1 at the Oakland Exposition Building, Tenth and Fallon Streets, Oakland, from 10 a.m. to 10 p.m. Tickets purchased during this advance sale are \$1. Admission charge at the door will be \$1.50.

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Ticket Sales Close On April 15 for Sandian's Spring Cruise-Dance, May 13

A cruise-dance has been announced by the Employee's Dance Committee at Livermore Laboratory for Friday, May 13. The event is open to Sandia and LRL employees and their guests.

Included in the evening's activities are a sunset cruise around San Francisco Bay and dancing to the music of Maury Wolohan and his orchestra. Refreshments will be available aboard.

The chartered boat is scheduled to depart from 1st and Clay Streets, Jack London Square in Oakland at 9:30 p.m. and will return to the same dock about 12:30 a.m.

According to the Dance Committee, only 300 tickets are available on a first-come. first-served basis, and sales will close April 15. Price per person is \$3.

To purchase tickets, contact one of the following employees: Doris Guntrum, Bldg. 911; Mike Ferrario, Dorothy Wiemken, or Helen Bond, Bldg. 912; Vivian Lenz, Bldg. 913; Pat Tarp, Bldg. 914; or Mary Lou Taylor, Bldg. 916.

Additional information is posted on Laboratory bulletin boards.

W. A. Jamieson Named Vice Pres. Of Hospital Board

Members of the Board of Directors of Valley Memorial Hospital have elected W. A. Jamieson (8235) vice president for 1966. The election of new officers was held at the first meeting of the Board following the hospital corporation's annual election of directors.

Bill, who has been at SCLL since transferring from Albuquerque in 1957, has been serving the hospital in various capacities. He was chairman of the residential campaign in the hospital's initial fund raising drive and is a member of a three-man steering committee for the current valleywide campaign to raise \$800,000 toward a \$2.2 million expansion program. He has been a member of the Board of Directors for the past two years and last year served as Board treasurer.

Chabot Film Series

Five foreign movies are being offered in the Spring Film Series which began at Chabot College in Hayward on April 6.

The series, open to the public without charge, is sponsored by the Associated Students of Chabot College and the College's Community Services Office.

The films remaining to be shown and dates are: Fires on the Plain (Japan, 1959), April 20; Hiroshima Mon Amour (France, 1959), May 4; Forbidden Games (France, 1952), May 18; The Confessions of Felix Krull (Germany, 1959), June 1.

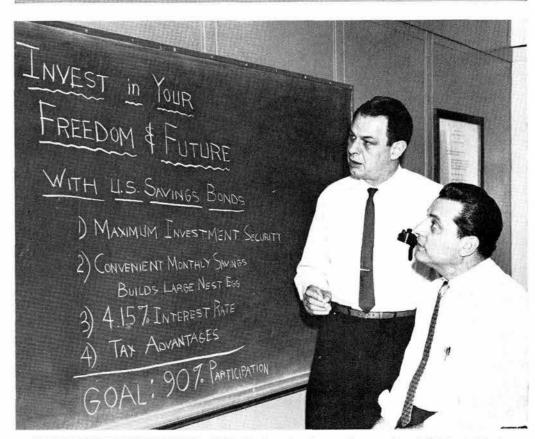
Sympathy

To Frances Hodgkins (8253) for the death of her mother in San Leandro, Calif., Mar. 5.

To Don Heier (8252) for the death of his father-in-law in Houston, Texas, Mar.

To E. L. Anderson (8222) for the death of his mother-in-law in Santa Cruz, Calif.,

LIVERMORE NEWS



SOUND INVESTMENT FEATURES of U.S. Savings Bonds are discussed by (left) G. L. Scholer (8134), Livermore Laboratory coordinator for the forthcoming Sandia Corporation Bond Drive, and J. F. Genoni (8235-1), secretary. The drive is scheduled to begin April 25 and run through April 29. A 90 percent participation goal has been set for this year's drive.

Robert Mason Scores Triple 'First' While Working for Pilot's License

Robert M. Mason (8135) holds the distinction of being the first novice pilot to make his first solo flight from the new Livermore Airport which opened in November. Bob was also the first student to solo in the 1966 Cessna 150 recently acquired by the Flying Particles, LRL Recreation Association's flying club. Bob is a member of the club.

The usual first-solo ceremony, which involves the traditional rite of snipping the solo pilot's shirt-tails, was held at the airport following the flight.

Bob has had two instructors since starting his flying lessons last October. First, Jack Chinn who left the area for a period of time, then E. H. (Red) Roybal, an American who lives in Madrid, Spain, but is free-lance instructing while in this country on personal business.

"Both instilled a tremendous amount of confidence in me," Bob said, "but the greatest boost came the day after I soloed, when I finally realized what soloing really meant. That day Red stepped out of the plane and said, 'take it around.' He felt I was flying safely and could continue learning by myself." Red has done stunt flying and crop dusting, and has flown as command captain for many major airlines, both domestic and

foreign, most recently with Icelandic Airlines. During eight months in 1961, he flew into Belgian Congo and Katanga province for the Seven Seas Airline under contract to the United Nations.

According to Bob, "Flying is a great feeling! During my first solo the only difference seemed to be that the plane was lighter because I was alone, and I could see out of the right window."

From the time Bob attended Massachusetts Institute of Technology, where he earned his MS degree in electrical engineering, he has wanted to learn to fly. Now with about 20 hours in the air, he is working to qualify for his pilot's license. A total of 40 hours flight time is required as well as supervised cross-country flying. The applicant must also pass a written test in aviation and navigation.

"I'm looking forward to putting in a good deal of flying time," says Bob, "and am also planning several trips after I receive my pilot's license."

The second student to make his initial solo flight from the new Livermore Airport, and in the Flying Particles plane, was George Dunbar (8149).

TRADITIONAL RITE of shirt-tail snipping was performed at the new Livermore Airport honoring Bob Mason (8135), the first novice pilot to take his first solo flight from the airport. From left are airport superintendent Jim Brians, instructor E. H. "Red" Roybal, Bob, and The Flying Particles president, Jim McElroy.





ROARING TWENTIES, Chicago style, is the name of the blast (note the rifle) planned Saturday, April 16, at the Coronado Club. Music, McClosky's Dixieland All Star style, will recall the days of Dillinger and the flappers. Sirloin steak tops the menu. worn by George Shelton (3122) and Rosemary Padilla (3126), are optional.

Two Big Ones Planned

'Roaring Twenties' Blast at Club April 16; 'Island Cruise' Set April 30

The Roaring Twenties will be reincarnated Saturday, April 16, at the Coronado Club with a number of surprises planned during the evening's festivities.

Dinner starts at 7 p.m. with sirloin steak heading the menu.

At 9, McClosky's Dixieland All Stars will set the ragtime tempo for dancing.

"The Unteachables," a chorus line of Sanado Club women in disguise, will perform the Charleston during the floor show along with a featured act of Dick Dye's Whistlers.

Even the Club's Board of Directors will perform-something called the South Chicago Barbershop Quartet.

Reservation needed for this one. Call the Club Office, 264-4561. Cost for members is \$3.50, guests \$4.

Another big one is planned Saturday, April 30. Called the "Caribbean Cruise," the event will feature an Island menu of sweet and sour pork, chicken curry, baked banana, and more. Planters punch for all. Dinner starts at 7 p.m., dancing to the Rhythmasters at 9. Make reservations early. Admission for members is guests \$4.

Open House

New look of the Coronado Club, the result of a redecorating project conducted during the past few weeks, will be celebrated Monday, April 11, with an open house for members only. Party will get underway at 7:30 p.m. with complimentary hors d'oeuvres and refreshments at social hour prices. New paint, new windows, and new decor give the interior of the Club a completely new look. C'mon out and see for yourself.

Social Hour

The Club's popular Chuckwagon roast beef and shrimp buffet will be the focal point of tonight's social hour. Cost is \$1.75 for adults, \$1.50 for children. Jerry Lee will provide the happy music.

Next week's social hour, will feature the Mexican buffet and the Lamplighters.

On April 22, social hour will be combined with the monthly adult go-go shindig. Tommy Kelly will provide the music. The seafood buffet will be served. For those with stamina, the go-go business starts at 8:30. No admission charge for members.

Bridge

The duplicate bridge group will meet every Monday night at 7 p.m. for the remainder of the month. The Olympian Fund competition will be held April 11 and the monthly master point play will be held April 25.

Ski Club

The Ski Club will wrap up the season's activities with a "Let Yourself Go-Go Party" Friday, April 15. It starts at 8 p.m. in the Eldorado Room. Music, billed as "half go-go, half conventional," will be furnished by the Puritans. Admission is \$1, guests are welcome. Refreshments will be served.

Supervisory Appointments



WILLIAM D. BURNETT to supervisor of Industrial Hygiene Di-vision 3311, effective April 1.

Bill worked at Sandia Laboratory as a summer employee in weapons effects in 1958 and 1959. In September

1960 he became a full time employee in health physics.

Before joining Sandia, Bill was with the U.S. Army artillery from 1955-57, primarily in the Los Angeles area.

He received a BS degree in physics from Texas Western College in June 1955, an MS in physics from California Institute of Technology in June 1959, and an MS degree in radiation biology from School of Medicine and Dentistry, University of Rochester in June 1960.

Bill is a Certified Health Physicist and a member of the Health Physics Society and Alpha Chi.



J. READ HOL-LAND to supervisor of SNAP Technolo-Division 9332, effective April 1.

Read joined Sandia in October 1961 to work in the area materials research. For the past three years, he has been conducting re-

search on shock waves in solids.

From March 1960 to October 1961, Read was chief of the Advanced Metallurgical Branch at Wright-Patterson AFB. He was a first lieutenant in the U.S. Air Force assigned to Wright-Patterson as a research metallurgist for the two previous

Read taught metallurgy at the University of Indonesia from September 1956 to October 1958. During this period, he also served as administrative assistant for the foreign aid group that was in Indonesia under the sponsorship of the U.S. Department of State.

He was a Fulbright Scholar at the University of Sheffield in England where he received a master of metallurgy degree in July 1954. He was awarded a BS degree in metallurgy from the University of Kentucky in July 1953 and a doctor of engineering degree from the same university in January 1962.

Read is a member of the American Society for Metals, American Institute of Mining, Metallurgical and Petroleum Engineers, Institute of Metals in England, American Association for the Advancement of Science, Tau Beta Pi, and Omicron Delta Kappa.

JACK D. REX to supervisor of Receiving Division 4623, effective April

Jack joined Sandia in June 1962 and was assigned to personnel methods in the administrative services group. He transfer-

red to the personnel organization as a personnel representative in February 1964.

Before coming to Albuquerque, Jack was manager of production control for Belden Manufacturing Company in Richmond, Ind., for 18 months. In this capacity, he was responsible for production scheduling and the stores and receiving function at the plant. He also served as personnel manager and held other positions during his 12 years of employment with the firm.

Jack is currently completing the requirements for a master's degree in business administration at the University of New Mexico. He received his BS degree in business administration from Indiana University in February 1950.

From 1942-45, Jack served in the U.S. Air Force as a B-29 flight engineer and was commissioned a second lieutenant.

Retiring . . .

James T. Knott will retire April 29 after almost 15 years at Sandia.

A pipefitter in plant maintenance, he has serviced fire protection sprinklers in Laboratory buildings since about 1952. Jim plans on doing some



hunting and fishing after retirement. Mr. and Mrs. Knott live at 1412 Katie, NE. They have a married daughter and a son (D. D. Knott, supervisor of Building and Facilities Design Division I, 4542), and six grandchildren in Albuquerque.

James R. McAchran will retire April 29 after more than 15 years at Sandia.

Jim spent about 10 years as a mechanical inspector before he transferred to electronic testing and evaluation. After retirement, he intends to



continue working with electronics as an avocation.

His schedule also includes several months of traveling to visit friends in Los Angeles, relatives in Chicago, and his married son in Norfolk, Va. Jim also intends to spend more time with his five married children here and to do some fishing.

Mr. and Mrs. McAchran live at 505 Tennessee, SE.

Carl W. Manaugh, a Sandia Laboratory employee for more than 16 years, will retire April 29.

Carl is a machin ist in Branch Shop Section 4252-2 of the Mechanical Department.

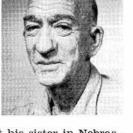
He has no immediate plans for traveling, but intends to spend more time He lives at 9610 Trumbull, SE.



working around his home after retirement.

Owen H. Schutt, a carpenter in Maintenance Section C 4512-3, retired March 25 after more than 14 years with Sandia.

Before coming to Albuquerque, Owen worked for a year at the Sandia Test Facility at Salton Sea in California.



Owen plans to visit his sister in Nebraska and a brother and sister in Colorado. On his return to Albuquerque, he will devote some time to hunting and fishing. He lives at 6910 Acoma Rd., SE.

Sanado Club Sherry Luncheon Set at Coronado Club April 12

D. D. Monroe, New Mexico businessman, author, and lecturer, will be guest speaker at the Sanado Woman's Club sherry luncheon Tuesday, April 12, at 1:30 p.m. at the Coronado Club.

Mr. Monroe is famous for the kind of wit and wisdom made popular by the late Will Rogers. Mrs. R. S. Lemm will introduce the speaker. She is past president of the Sanado Club and was program chairman when Mr. Monroe addressed the club several years ago.

Added attraction for the afternoon will be a flower show provided by the club's garden group, Mrs. Lewis M. Larsen, chairman of this group, announces there will be a sweepstakes winner in each of two categories-horticulture and flower arrangement plus sub-division winners. The show will be judged by Mrs. J. D.

Arrangements for the flower show will be used as centerpieces for the luncheon tables. Mrs. E. E. Patrick is decorations committee chairman.

Mrs. W. S. Hunter, Mrs. N. L. Vinson, and Mrs. J. C. Hart will be door hostesses and Sanado President, Mrs. R. W. Mottern, will greet at the door. Mrs. A. J. Fuller, Mrs. D. M. Fuller, and Mrs. P. F. Meigs will preside at the sherry table.

Reservations for members and guests should be sent to Mrs. S. D. Brooks, 6913 Shoshone NE.

FLOWER ARRANGEMENT competition will be one of the highlights of the Sanado Club sherry luncheon April 12. Mrs. L. M. Larsen (left), chairman of the Sanado gardening group, and Mrs. E. E. Patrick work on an entry of daffodils.

Yiddish Play Marks Debut of Buyer-Actor, George Cosden

George Cosden's introduction to the theatrical world was anything but auspicious. The play had to be postponed once because the cast got "cold feet," and a second time when it was discovered the new dates coincided with a religious holiday. Half the audience didn't understand the dialogue, still the play was a sell-out. Broadway producers should be so lucky?

George is an assistant buyer in Purchasing (4371) and his interest in the theatre has always been from the audience side of the footlights. However, when the Old Town Studio decided to present a play in Yiddish, George and other members of the local Yiddish Club bravely offered to help.

The play, "Der Get" (The Divorce), was written by Sholem Aleichem, considered the foremost Jewish playwright. The setting is Poland 200 years ago and the action depicts a family breaking out of medieval customs into modern ways and attitudes. George played the friend of a young man being forced into a divorce by his mother-in-law.

"I have spoken Yiddish on and off throughout my life," George said, "but several members of the cast had only learned the language recently and could not read the written characters. Their parts had to be re-written in Roman characters."

(Yiddish is basically a Germanic language which was the common tongue of Jewish people living in Europe. Hebrew is semantically related to Arabic and is traditionally the language of worship; however, it is now replacing Yiddish as a universal tongue and is the conversational language in Israel.)

"The Yiddish Club was organized to help people learn and practice the language and appreciate the beautiful literature written in Yiddish," George explained.

The director of the play and sparkplug behind the club is Mrs. Maurice Rosenthal. The actors represent a wide cross section

Sandia Papers Invited For ACS Carlsbad Meet

Four technical papers by Sandians will be presented during the annual Meeting in Miniature of the American Chemical Society, to be held April 16 in Carlsbad, N. M.

The meeting is sponsored by local ACS chapters, and papers are invited from the New Mexico-West Texas area.

The Sandia papers are: "A Rapid Method of Determining the Optimum Polymerization Conditions for an Epoxy Resin" by D. R. Anderson and J. M. Holovka; "N-Alkyl or Alkenyl Substituted (Tetrahydrophthalimide and Maleimide) Polymers" by D. R. Anderson and C. J. Rogers; "Utilization of Thin Layer Chromatography for Epoxy Resin Systems" by P. E. Cassidy, D. K. McCarthy, and J. M. Holovka; and "Improving Properties of Epoxy Resins by Use of Epoxytetrahydrophthalic Anhydride" by P. E. Cassidy. All of the authors are members of Polymer Chemistry Division 1111.



SANDIA SECURITY GUARDS under AEC regulations annually have to pass a modified version of the FBI practical pistol course. Eugene A. Redic (3242) recently placed all of his shots in the target—an outstanding achievement during qualifying tests.

of residents: an artist/gift shop owner, a lumberyard worker, a professional hypnotist, woman dentist, manager of a chain of variety stores, and a man who moved here for health reasons.

"There are about 600 Jewish families in Albuquerque, but few of them have Yiddish backgrounds. Nevertheless, the first play to be given in the city in Yiddish was well received," George concluded. An English synopsis helped.



STAGE DEBUT for George Cosden (4371) was in Yiddish drama "Der Get," which played to sell-out audiences.

Events Calendar

April 8-10—World premiere of John Patrick's play "It's Been Wonderful," Albuquerque Little Theatre, 224 San Pasquale SW.

Thru May 1—"20th Century Sculpture," UNM Arts Center.

April 10—Community Easter sunrise services, sponsored by Albuquerque Council of Churches, 6 a.m., Wilson Stadium at Manzano High School.

April 10 and two or three days following— Ceremonial dances at most of the Indian Pueblos.

April 14—WCA annual Liars Banquet, 7 p.m., VFW Hall, 4510 Lomas NE.

April 14—Albuquerque Civic Symphony's Sibelius program with violin soloist Sidney Harth, Civic Auditorium.

April 20-24—"Ice Capades," four matinee and four evening performances, Civic Auditorium. Tickets at the box office. April 21—UNM Cultural Series, author

Leon Harris on "Impact of Wit and Humor on History," UNM Student Union, 8:15 p.m.

April 21-24 and April 27-May 1—John Osborne's play "Look Back in Anger," Old Town Studio, 1208 Rio Grande NW. For reservations call 242-4602.

Enchanted Lens Club To Hold International Color Slide Contest in April

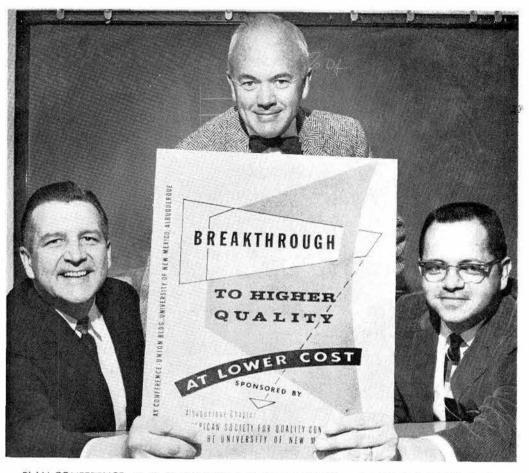
The Enchanted Lens Camera Club of Albuquerque will sponsor an International Color Slide Exhibition at Coronado Center this month. The exhibition, sanctioned by the Photographic Society of America, is open to entries from throughout the world. Judging, a public event, will be held Saturday, April 23, beginning at 8 a.m. in the Center's Town Hall.

Showings of accepted slides will be held at the Center May 21 at 8 p.m., May 29 at 3 p.m., and May 30 at 8 p.m. Two additional showings will be held in Santa Fe at the Folk Art Museum Sunday, May 22, at 3 and 8 p.m.

General Chairman for the event is Joe Connell (2113) and Richard Berg (1423) is treasurer. Alice Connell, one of the judges, is a former Sandian.

Entries will be accepted through April 18. Entry blanks and additional information are available from Mr. Connell, telephone 255-3372.

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PLAN CONFERENCE—W. C. Kraft (2440), E. H. Draper (2000), and B. W. Bell (2113) display program of the ASQC-UNM "Breakthrough to Higher Quality at Lower Cost" conference scheduled April 14 at the New Mexico Union building, UNM campus. Mr. Kraft and Mr. Draper will present the opening addresses for the meeting.

ASQC 'Quality Breakthrough' Meet Scheduled at UNM Union April 14

W. C. Kraft, manager of System Test Equipment Development Department 2440, and E. H. Draper, Vice President 2000, will deliver the opening addresses April 14 during the one-day conference sponsored by the local section of the American Society for Quality Control and the University of New Mexico. Mr. Kraft is president of the Albuquerque Chapter of ASQC.

"Breakthrough—To Higher Quality at Lower Cost" is the theme of the conference. Featured speaker will be J. M. Juran, international authority on quality control and management practices. His subject is "Managerial Breakthrough" in which he will explore creative change within a company and managerial techniques for creating change.

Other speakers and topics include F. A. Lally, Hughes Aircraft Co., "Feedback—A Breakthrough to Cost Reduction"; W. Z. Kehayias, IBM Corporation, "Breakthrough to Computer-Aided Quality Control"; and Margherita Henning, UNM, "The Concepts of Excellence and Equality and Their Implications for American Education."

The conference will be held in the New Mexico Union, UNM, with registration beginning at 8 a.m. Fee is \$15. Contact

Take Note

H. E. Marrows, technical information supervisor of Western Electric Co. in New York City, recently toured Sandia facilities to develop story ideas for WE and national publications. Mr. Marrows toured Area III, the Sphere of Science, and the new operating room at Bataan Hospital which incorporates the laminar flow clean room principle developed at the Laboratory. He also met with O. M. Stuetzer, manager of Technical Physics Research Department 5140, for a briefing on unclassified research projects.

E. L. Devor (2563) and W. G. Smith, value engineering coordinator for ACF Industries, presented a three-hour value engineering orientation for 25 city department heads and engineering personnel on March. 24.

The session was requested by the City Manager's office.

L. J. Heilman (2100) opened the meeting and introduced the speakers.

D. J. Jenkins, manager of Organization and Manpower Development Department 3130, was keynote speaker at the National Secretaries Association seminar held in El Paso March 23. More than 200 members and guests attended the meeting.

Mr. Jenkins' speech was entitled "The Need for Achievement."

T. D. Harrison (2514), conference chairman, tel. 264-2868; or B. W. Bell (2113), publicity chairman, tel. 264-5161, for additional information.

Three Sandians Help Rescue Injured Youth From Enchanted Mesa

Three Sandians participated in the recent overnight rescue of an injured Albuquerque teenager from high up Enchanted Mesa on the Acoma Pueblo Reservation.

Gary Holcomb (1314), Walter Herrmann (1116), and Pete Skaates (9422) are members of the Albuquerque Mountain Rescue Council (AMRC), a group of volunteers who have the training, experience, and equipment necessary for search and rescue operations in difficult terrain or in adverse weather.

The boy, Robert Balleau, age 15, sustained a back injury when struck by a rolling rock while exploring the cliffs with relatives Saturday afternoon, March 26. It was 8:30 p.m. before members of AMRC, State Police, Laguna Pueblo Police, and Acoma Pueblo volunteers started the climb. Gary Holcomb led the group.

The rescue involved raising the injured boy up a 30-foot cliff before the climbers could begin to lower him by ropes and other means. Temperatures ranged down to the mid-20's. It was 2:30 a.m. before the operation was completed and the boy was en route to an Albuquerque hospital.

The Rescue Council was organized in 1955 after a plane crash in the Sandias pinpointed the need for such a group. It relies heavily on the specialized equipment of individual members, especially that needed for rock climbing and snow and ice travel; however, AMRC does have some specialized rescue gear, such as a Stokes litter which may be disassembled and carried by backpack. The AMRC can be mobilized by any responsible federal, state, or local organization when there is a need for its services. The 1966 chairman is Don Mattox (1123)

Sandia Authors

D. F. Hillyer, Jr. (8113), "An Automatic, Adaptive Servo Control for Stochastic Processes," February issue, JOURNAL OF ENVIRONMENTAL SCIENCES.

G. J. Simmons (5612), "Some Results Pertaining to Fermat's Conjecture," January issue, MATHEMATICS MONTHLY.

C. D. Taylor (1425), "On the Interaction of an Electromagnetic Field with a Cylindrical Missile-Plume Structure," forthcoming issue, Proceedings of the Electromagnetic Interactions Symposium.



COST IMPROVEMENT—M. E. Holcomb (left) and E. C. McNeely discuss unique connector socket which snaps onto 10 connector pins in an explosive switch (in Mr. McNeely's left hand) and eliminates a time-consuming soldering operation during production testing.

Cost Improvement Action

PT Designers Eliminate Bottleneck In Explosive Switch Test Operations

In nuclear weapons design and development, reliability is a primary goal. To assure the degree of reliability required, much care and effort goes into the design of production test (PT) equipment. Recently, two Sandia designers of PT equipment, as part of their responsibility for the design of the equipment and the procedures used, eliminated a time-consuming step in the testing of explosive switches.

M. E. Holcomb (2451) and E. C. Mc-Neely (2453) produced a unique design for the connector socket which eliminated a costly soldering operation during inspection-test activities on the explosive switch production line. The new connector socket may prove to have wider applications in the industry.

Before the connector was designed, it was necessary to solder two color-coded wires from the PT to each of the 10 connector pins of the explosive switch before destructive testing. The soldering was required to assure proper contact to the tester. Sampling test procedures had to provide for meeting rigid performance requirements as well as economic considerations. Connections between the tester and switch required a resistance of 3 milliohms to assure proper contact and a proper test.

From the beginning of production of the switch, the Sandians were not satisfied with the soldering requirement but there was no simple sure way available at that time to meet the test requirement other than soldering.

To meet pressing time scales the switch went into production, and the PT designers then concentrated on the soldering problem. Their solution, which evolved after a series of preliminary designs, was a plastic socket which could be quickly "snapped" into a tight closure with the switch's connector pins. The "jaws" of the socket, made from beryllium copper and then gold plated, were firmly closed by mechanical pressure as the socket collar was locked into position.

The contacts met the resistivity requirement and completely eliminated soldering. The socket could be installed rapidly in the test operations, whereas the soldering operation required at least 15 minutes to perform.

Needless to say, the manufacturer of the explosive switch was happy with the new sockets. A costly bottleneck had been removed from his production line. Safety aspects were improved. And, there was less waste or spoilage making ready for the test—savings which were passed on to Sandia.

Mr. Holcomb and Mr. McNeely were credited with a \$2240 cost improvement action, a comparatively small but significant savings for a two-year period. The big gain for all concerned was the ease and rapidity of the operation and the resulting speedup of delivery of the switches.

Value Engineering and Cost Improvement Division 2563 has reported the action to the Atomic Energy Commission. The Division emphasizes that all Sandians are eligible to report any cost improvement action. Creating better and more effective ways of performing the job is part of the job.



SPECIAL RECOGNITION—J. Lloyd Williams (2513) admires a certificate he received from the Sandia Base Boy Scout Committee for his outstanding service as a member of the group's advancement committee. Paul E. Kohler (second from left) of the Atomic Energy Commission's Albuquerque Operations Office also received an award. Making the presentations at Sandia Base Officers Club were J. L. McCraw (second from right), Deputy Manager, AEC-ALO, and Glenn A. Fowler, Vice President 9000 and Scout Commissioner of Kit Carson Council.

Sandia Parent Actively Supports Montessori Method of Teaching

The Montessori method of teaching is a big mystery to many parents—and three years ago Marvin Moss was one of those parents. In fact, he'd never heard of this system of teaching pre-school children which was developed 60 years ago by Dr. Maria Montessori in Rome.

The situation has changed considerably. Marvin, a physicist in Materials Research Division 5154, has two daughters enrolled in the Albuquerque Montessori School and for the past two years he has been president of the nine-member board of the non-profit governing corporation. (Another Sandian, J. Read Holland, 5133, is vice president.) "It's currently taking up most of my spare time," Marvin notes.

The method enjoyed a brief vogue in the U.S. around the turn of the century but was overwhelmed by enthusiasm for "progressive education" programs. Montessori teaching continued to be popular in Europe and in some cases extends through all grades. In the 1950's there was a renaissance in the U.S. which has seen at least 200 schools organized, primarily by parent groups. The limiting factor has been the shortage of teachers trained in the Montessori method.

In Albuquerque, a study group was formed four years ago, and eventually two women were sent to Phoenix to receive special training. The school began operation in September 1964 and three months later moved to its present location at 5405 Gibson SE. There are two teachers (each with two assistants) for the 85 children enrolled—ranging from 32 months to grade school age. The classes last two and a half hours a day (either morning or afternoon), Monday through Friday, September through May.

How does a Montessori school differ from usual nursery schools? There is a strong appeal to the child's five senses. Marvin said, "We use highly specialized equipment, much of it designed by Dr. Montessori and imported from Holland." The classrooms are carefully designed and contain scaled-down furniture. "The children are comfortable in their environment," Marvin pointed out, "and they use things that are the right size for them." And perhaps of most importance, the method is designed to develop a child's self-discipline.

"The natural desire to be orderly is a noticeable development even in three-year-olds, and they also like to learn," the Sandian said. "The children don't play in the usual sense, rather they choose whatever task interests them the most; they do things they enjoy. In doing so, they acquire the ability to apply themselves and when they finish with equipment, they must put it away before moving on to the next task. The classroom is usually very quiet and the children are very busy."

The child learns in several ways. From practical life exercise, he learns how to sit, how to wash his hands, how to peel a carrot, etc. With special sensorial equipment, he learns graduations in sizes and weights, differences in musical tones, and he traces sandpaper letters to become acquainted with the alphabet. Graded rods, beads, and blocks give the child a feeling for mathematics from a physical standpoint. Body coordination is developed from such tasks as picking up kernels of grain (holding a pencil is easy after practice in this) or pouring liquid from a pitcher into a cup and back again.

"In general," Marvin said, "the child learns how to cope with the world. The system emphasizes a great number of things that are important in child development yet are frequently missing in ordinary family life nowadays. The program's worth is measured by whether the child has developed a healthy attitude toward learning in a disciplined fashion in order to make maximum use of his abili-



LOCAL MONTESSORI OFFICIAL Marvin Moss (5154) visited the school and found his daughters Janine, $5\frac{1}{2}$, and Diana, $3\frac{1}{2}$, playing with graded cylinders and colored blocks which give youngsters a feeling for the principles of advanced mathematics.

Sandia Speakers

D. E. Munson (1115), "Dynamic Behavior of Beryllium," National Academy of Sciences, Materials Advisory Board's Committee on Beryllium Metallurgy, March 29, Washington, D. C.

D. W. Braudaway (2412), R. B. Foster, Jr. (2411), and M. C. Jones (2411), "Automation at the AEC Primary Standards Laboratory," 21st meeting of the American Ordnance Association, April 6-7, Cape Kennedy, Fla.

V. E. Blake, Jr. (9310), "Aerospace Nuclear Safety," National Topical Meeting of the American Nuclear Society, March 23, Augusta, Ga.

Delores Lanier (3421), "Report Indexes," New Mexico Library Association, April 1, Carlsbad.

Calla Ann Crepin (3421), "Status of the Federal Committee on Scientific and Technical Information," New Mexico Library Association, April 1, Carlsbad.

John Gardner (3421), "Survey of Problems Affecting New Mexico Libraries," New Mexico Library Association, April 1,

J. E. Schirber (5151), "Fermiology Under Pressure," Solid State Seminar, University of Maryland, March 25, College Park, Md. P. J. Chen (1116), "On the Formulation of Rheological Constitutive Relations," faculty and students of Mechanical Engineering Department, University of New Mexico, March 19.

R. I. Butler (7325) and Richard Dove (Sandia consultant), "The Selection and Evaluation of Shock Test Data," Institute of Environmental Sciences, April 13-15, San Diego, Calif.

Floyd Mathews (7343) and R. O. Brooks (7341), "Mechanical Shock Testing Techniques and Equipment," Institute of Environmental Sciences, April 13-15, San Diego, Calif.

K. M. Timmerman (7326), "A Fast Rise Programmed Centrifuge," Institute of Environmental Sciences, April 13-15, San Diego, Calif.

R.W.P. King of Harvard University (Sandia consultant), E. A. Aronson (5263), and C. W. Harrison, Jr. (1425), "The Determination of Accurate Values of Admittance and Effective Length of Cylindrical Antennas," International Scientific Radio Union (URSI) meeting at the National Academy of Sciences, April 18-21, Washington, D. C.

Service Awards

20 Years







J. L. Hollenbeck 4615 J. E. Palmer 9214



W. E. Rehbeck 2562





E. J. Zachewicz 4221

F. J. Maloney, Jr. 8112



W. R. Perret 5232

C. J. Kaspar 4541





S. Stefoin 2413



J. K. Wichelns 4373

10 Years

Apr. 8-21 Mary L. Newmons 3428, Marian C. Atwater 3421, P. 0. Rog.rs, Jr. 7245, J. C. Valdez 4575, J. A. Herbolsheimer 8168, Marie H. Syme 5600, and Lucille D. Sanchez 3126.

15 Years



R. J. Dineen 1334



H. L. Brint 8143



F. R. Callahan 4632

J. P. Ford, Jr. 1334

T. R. Lopez, Jr. 4212



S. A. Chemistruck 2132



W. H. Curry 9322









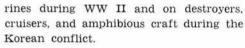


Genny Gillespie 3126



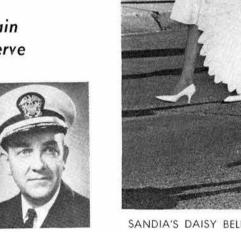
Larry E. Horner Selected for Captain Rank in USN Reserve

Larry E. Horner (9214), commanding officer of Naval Reserve Surface Division 8 - 106, has been selected for the rank of Captain. Larry has 21 years service in the regular Navy and Reserve units. He served on subma-



As commander of the Naval Reserve unit, he is responsible for training and proficiency activities of 250 men and 17 officers.

He has been at Sandia since October 1954 engaged in Quality Engineering, Systems Development, and, more recently, Joint Task Force Two activities.



SANDIA'S DAISY BELLE-Miss Mimi Walter (3151) represented Sandia Corporation at the recent breakfast to kickoff the local cleanup drive. The day's activities included a parade on Central Avenue in downtown Albuquerque.

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SHOPPING CENTER

0. L. Wright 4610

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SHOPPING CENTER

SHOPPING CENTER

CLASSIFIED ADVERTISING Deadline: Friday noon prior to week publication unless changed by holiday.

A maximum of 125 ads will be accepted for each issue.

- for each issue.

 RULES

 1. Limit: 20 words

 2. One ad per issue per person

 3. Must be submitted in writing

 4. Use home telephone numbers

 5. For Sandia Corporation and

 AEC employees only

 6. No commercial ads, please

 7. Include name and organization

 8. Housing listed here for renr or sale is available for occupancy without regard to race, creed, color, or national origin.

FOR SALE

120 BASS ACCORDION, Italian, carrying case and padded shoulder straps. Culley, 256-6308. RABBITS, all sizes, \$1.50; '62 Impala HT, R&H, PW, 283 V-8, \$1350; 2-bdr. house, hwf, tile bath, \$9200, across river, Browne, 344-9675.

AWN MOWER, hand; extension ladder; bench grinder; Polaroid camera; printer; photocopiers; Hammerlund HQ-180 receiver; Zenith radios, Amer-icanna encyclopedia; time switches, Quinlan, 296-3336.

53 000 miles, front wheel drive, \$225 Pierson, 282-3229.

MAGNAVOX stereo theater: 21" TV, FM-AM tuner, 4-speed record chinger, walnut hardwood finish, \$300. Key, 298-7988.

REGISTERED Golden Retriever puppies, show stock. Lewis, 299-0588.

CONVERTIBLE, '63 Corvair Monza, 4-speed, positraction. Bush, 265-7087. BAY MARE; '59 Triumph Tiger Cub, built for scrambling, \$395; lawn mower, \$10; '57 Chevrolet, \$525. Causey, 299-0089.

3423 glazed steel sash, \$20; home-made luggage rack, 4'x7'x1' w/adjustable mounting bars, \$15. Dalby, 268-3288.

POWER lawn mower, Sear's 18" reel type, 21/2 HP Briggs and Stratton engine. Crass, 299-1418.

ELECTRIC RANGE, \$45; refrigerator, \$45; chrome dinette, \$25; double sink wffittings, \$25; kitchan cabinets base and wall, \$25. Verardo, 255-6385.

6X6 PLAYHOUSE, plywood construction, \$10. Luna,

'58 OLDS 98. low mileage, new tires, \$600, Gross,

4-BDR. Mossman Sacramento, den, 134 bath, brick front, 1800 sq. ft. living area, below FHA, 3506 Florida NE. Mattox, 268-5554. PHILCO-BENDIX washer dryer combination, needs minor repairs; '54 Mercury convertible. Singleton, 299-1613.

TEKTRONIX 545 oscilloscope, dual trace, works but needs adjustment, \$450 or reasonable offer. Cyre, 256-1198.

ROBERSON pitched roof, 3-bdr., 134 baths, den, fireplace, dbl. parage, electric kitchen, dishwasher, custom drapes, 10121 Mesa Arriba NE. Mc-Phail, 299-9481.

Phail, 299-9481.

'59 CHEV. Parkwood 4-dr. station wagon, low milage, R&H, AT. Young, 256-1361

21" TV, table model, \$45. Westman, 255-6048. 26" BOY's Schwinn bicycle. Stueber, 299-2414. 9 CU. FT. Westinghouse refrinerator w/40-lb. capacity freezer, \$40. Sandoval, 877-2032 after 4:30.

PISTOL, .22 cal. German six-shooter, 2" barrel, \$15, 719 Nuanes Ave. SW. Zamora, 243-7107.

8 MM Bell & Howell: 3 lens turret camera, leather carrying case, filters, projector, tripod screen, \$95 Shanfeldt, 256-7210. S-BDR. MANKIN, near Los Altos Park, fireplace, carpet, walled yard, selling for appraisal \$12,950. Skinner, 299-8953.

Skinner, 299-5955.

GUITAR AMPIFIER, four inputs, electronic tremolo, high fidelity throughout, 12" full range speaker, \$125. Glover, 298-7302.

3-BDR. & FR, large kitchen, 134 bath, covered patio, sprinklers front and back, \$1500 under appraisal, \$1500 down, 9621 Arvilla Ct. NE. Price, 299-9082.

3-BDR. BRICK, 13/4 bath, den. fp. DR, all electric kitchen, laundry rm., carpeting, drapes, dbl. garage, breezeway, 2 patios, 15' swimming pool, La Jolla Park; or rent. Russo, 299-3869.

GAS AIRPLANE ENGINES, Cox .09 T.D. new; Torpedo .15; two Cox .049 engines; two stunt planes. Adams, 268-5943. SPRINGFIELD 30-06 model 03-A3, \$45 or best offer. Gels, 298-2059.

BABY FURNITURE: playpen, \$12.50: Baby Tenda, \$15; stroller, \$12.50. Minton, 256-6746. LADIES GOLF CLUBS, Wilson's Patty Berg

set, 5 irons, 2 woods, w/bag, used twice, \$35 or best offer, 422 Carlisle SE. Collis, 255-2453. '55 FORD V-8, stick, \$100, 1108 Maxine NE. Dunaway, 299-1422.

'64 CHEVY 1/2-ton pickup, 6-cyl., 4-speed, long wheelbase, Fleetside body, \$1395. Jelinek, 298-9705.

AKC TOY POODLES, 6 wks old, male, one silver, one champagne, championship breeding, 8406 Haines NE, Hann, 299-4216.

EVAPORATIVE air conditioner, down draft, 4800 cfm, 1/2-HP, 2-speed motor, used 6 weeks. Bragg, 344-8990.

'58 ZUNDAPP motorcycle, 250cc, w/helmet, extra tires, etc. Tassia, 299-6096.

STEREO CABINETS, two speaker enclosures, one equipment cabinet, \$80; 25HP outboard engine, no gas tank, \$75. Longfellow, 299-7062. TRAILER, camp type, extra wide, fully self-contained, gas, ref., floor furnace, water heater, shower, electric pump, etc. Maxwell, 299-2027.

APPALOOSA MARES and stallion, \$250 up or trade for two-horse trailer or camping trailer. Harker, 282-3435

AUTO AIR CONDITIONER, used one yr., \$100.

3-BDR., 134 bath, family rm., carpets, drapes, built-in oven, plate, dishwasher and refrig., pitched roof, near schools, \$16,800, 3913 Palo Duro NE. Davis, 344-8520.

ROTARY MOWER, Craftsman, 18", 4-cycle ennine, \$35; WIN. .22 rifles M69A bolt, \$22.50; M-77 auto., \$45. Svensson, 344-7700. '55 PACKARD, AT, PS, PB, radio, \$150. Driscoll,

PUREBRED LABRADOR RETRIEVER pups, 2 months old, females only, \$50. Wagner, 299-

14' BOAT w/motor and all accessories, \$150. Poore, 282-3610.

3-BDR, LR, DR, carpets, attached garage, utility area, sprinklers, \$13,500, \$300 down, or trade; '63 Chevrolet Impala HT. Workman, 298-8201.
34 SIZE roll-away bed, used only 3 times, \$25. Rauch, 265-1678.

20 ACRES in Sandias, \$395/acre. adjacent to \$1000/acre subdivision. Clement, 298-4994. '61 VW, new paint and tires, overhauled engine, R&H, \$750 or best offer. Salazar, 255-1301.

SPROUL tri-level 4-bdr., 2½ bath, AC. carpet-living room, \$18,000 appraisal, \$17,500 asking. Paris, 298-2939.

Paris, 298-2939.

CABIN on 2 acres, stuccoed, fenced and electricity. Fonderosa Pines, 10 miles south of Rt. 66 off Rt. 10. Yeager, 344-5331.

3-BDR., paneled den, brick fp, DR, AC, cfa, carpeting, drapes, sprinklers, walled, garage w/office and tool shelves, carport, patio, near Nob Hill, \$17,500 FHA. Smith, 256-0375.

ROLLAWAY BED, 34 size, \$15; large 2-burner Coleman campstove, \$6; 5-yal. Gl water can, \$3.50; Daisy mod. 1894 BB-gun, \$5. Reynolds, 299-7367.

'63 CHEVROLET pickup, fleetside, 3-spd., 6-cyl., R&H, side mirrors, trailer hitch, low mileage, \$1300. Taylor, 298-1449. '64 HONDA motorcycle, 305cc, electric starter. Sund-berg, 268-6435.

2 VW white 2-dr. sedan, deluxe model 113, less than 30,000 miles, seat belts front and rear, \$995. Bauer, 299-4688. '62 VW white 2-dr

SPJS. bauer, 259-4668.

SELL OR TRADE: Globe 100 watt Pep sideband transmitter, VOX, VFO, and changeover relay, complete, \$70. Bauer, 255-7774.

SMITH AND WESSON model 41, .22 target pistol, \$70. Langenhorst, 298-3595.

'65 MOTORCYCLE, BSA Thunderbolt. Littell, 255-2716 evenings. '61 FRIGIKING air conditioner. Huston, 243-0589

SIAMESE KITTENS, 6 wks. old, blues and choco-lates, excellent background from gentle parents, with or without papers. Swaim, 268-2035 after 5. '63 JEEP WAGONEER, 4-wd, AC, hubs, R&H, positraction, 2-speed wipers, PB, many other extras, \$2195. Stevens, 299-6086.

TWO BIKES, boy's 24", one w/rear wheel baskets, \$10 ea. Cotter, 256-0326. 3-BDR., 134 bath, 1400 sq. ft., plus dbl. garage, many extras, FHA \$17,400, sell for \$16,800 w/low down to 57,4% Gl. Kambourelis, 2914 June Ct. NE, 298-2148.

CONVERTIBLE, '49 DeSoto, \$150, top is 1 yr. old. Stixrud, 298-0478. PING PONG table and set, regulation size, folding, w/casters. Sundberg, 299-2177.

BENDIX washer-dryer and Packard-Bell 21" TV console, both need repair, \$15 ea. or both for console, both need repair \$25. Erdman, 298-3097.

CANADIAN CRUTCHES, adjustable aluminum; adjustible aluminum walker. Van Delinder, 255-9324 after 6. TENT, 10x12 cabin type, floor and zipper door, used very little. \$35; 26" girl's Amer. bike, \$12; 26" boy's Amer. bike, \$6. Duvall, 299-

ELECTRIC lawn mower, rotary type Nevin, 298-0383.

SHOPPING CENTER

'59 FORD 2-dr., AT, V8, \$300. Regan, 256-0284 after 5.

'55 FORD pickup, 6-cyl., 4-speed, trailer hitch, 16' wheels, \$295. Vigil, 877-1183.

CONN ORGAN, 2 61-note manuals, 25-note pedal; separate 50-watt Leslie tone cabinet; suitable for home or small church; cost \$2700. Bircher, 268-0726.

'63 CHRYSLER Newport sta. wag., 6-psgr., R&H, AC, AT, 31,000 miles, still on warranty, \$1750. Hollingsworth, 298-6477 after 6.

3-BDR. BRICK, drapes, carpet, 1½ bath, many extras, NE location, \$14,200; '62 TR-4, fully equipped, \$1195. Wilson, 298-0049.

BEEHIVE: 1 ea. brood chamber, 2 ea. supers, w/ table, all painted, includes all associated equip-ment. Harris, 299-0213. '64 16' SHASTA CAMP TRAILER, 12v electric water pressure, used one season. Mahaffey, 265-0798.

BOY'S 10-speed Schwinn bicycle; HT-37 Hallicrafters single sideband Ham transmitter and 40' steel tower. Freedman, 298-2177.

EVINRUDE OUTBOARD MOTOR, 35 HP. Dwyer. 255-2082.

BEGINNER'S GUITAR, \$10. Esterly, 256-9251. '58 OLDS 2-dr. HT, low milage, \$400. Smith, 296-1049.

'53 FORD V8 ½-ton pickup, 3-speed, RH, \$300. Hiller, 299-7573.

RESSING TABLE w/mirror and bench, cost \$80. self for \$27.50; 4 table lamps, 1 floor lamp. Nichols, 247-2564. HOME located at 1605 Maxine NE, 1 block from

Acoma elementary school, landscaped, FHA appraisal \$12,150, asking \$10,750. Cope, 298-5864. BUY 10 bales of hay for \$20 and I'll give you a very gentle well trained horse to eat it. Netz, 282-3607.

WHITE DRESSER and chest; juvenile drapes; maple book case; size 12-14 maternity clothes; size 5. 6, and 6X girl's dresses. Roth, 296-1459.

GAS RANGE, O'Keefe & Merritt, rotisserie, griddle, 4 burners, oven, automatic features, \$200. Pena, 898-0197. '65 F-100 1/2-ton pickup, styleside box, 6-cyl., 4-spd. trans., 16" wheels, heavy duty trailer hitch, book value \$1975, sell for \$1700. Roh, 299-3749.

3749.
'64 9-PASSENGER Olds Vistacruiser, all new tires. still on warranty. Smith, 264-7222.
EICO SIGNAL GENERATOR, \$20; portable electric adding machine; Garrard stereo changer w/base, adding machine; Garrard stereo changer w/base, extra cartridge, \$20; electronic gear. Laskar, 299-1024

SERVICE MANUALS: '59 VW sedan, '63 VW transporter, \$4 ea.; rear-view mirror VW bus, \$7; VW bus luggage rack, \$30. King, 282-3186. MANZANO HIGH, shopping center, Chelwood park area, 4th block west of Panarama and Marquette, area, 4th block west of Panarama and mary area, 4th block west of Panarama and mary area, 1, 60x110, \$1600. Bascom, 299-1662 or 298-

DINING ROOM SET, large table w/2 extra leaves, 4 chairs and large buffet, seldom used, \$100 of make offer. Harrison, 256-0216.

4-BDR. BRICK HOME, carpets, drapes, built-ins, 3415 Aspen NE, \$2000 to existing loan. Daniel, 268-8335.

24" BOY'S BICYCLE. Payne, 268-3184.

SHOPPING CENTER

AM EQUIPMENT, NC-98 rcvr, AF-67 xmtr 10-160 meters, 75 w.; DC-DC conv.; H-W P.S., mobil whip 10-15-20, mikes, misc. Johnson, 298-7356.

MOTORCYCLE, '64 Honda Dream, 305cc, 2500 miles, black and chrome, \$425. Kefauver, 255-8270.

'58 FORD 1/2-ton 6-cyl. 4 speed, new tires, hattery and shocks, make offer. Stone, 298-4879.

16' BOAT, redwood and oak w/plastic outer hull. Cook, 299-7509. WURLITZER electric piano, portable, cost over \$400, built-in speaker, 60 watt amplifier w/tremolo, \$190. Hahn, 268-5475.

AKC registered male boxer, 18 mos. old. fawn colored, all shots, excellent w/children, \$25. Spindle, 268-2636.

PICNIC table w/benches, six metal lawn chairs, make offer; Judson supercharger and trailer hitch for a Volkswagen. Kubiak, 265-6525. 3-BDR. HOME near Eubank NE, pitched roof, 11/2 baths, DR, AC, built-in range-oven, garbage disposal. Judd, 299-6536.

'54 OLDS, one owner, 4-dr. sedan, R&H, PS, PB, AT, wsw tires, new carpeting, \$195. Glass, 298-0842. '56 CHEVY 1/2-ton pickup, 6-cyl., 3-speed, \$295. DeLong, 264-3106.

MOSSMAN, below FHA, 3-bdr., pullman bath, ca-thedral ceiling, appliances, carpet, drapes, fire-place, new paint, CFA, hw/f, AC, walled, patio. Honnold, 268-5528.

21" TV, Stromberg-Carlson, w/mahog. table, \$50. Ogden, 242-8351.

'64 VW deluxe camper, 19,000 miles, \$1500, complete w/beds and closets. Kingsley, 299-1226. '61 FORD wagon, V-8, automatic trans., PS, must sell, \$550 or offer. Wagoner, 296-2464.

WANTED

12" SPEAKER in good condition. Wilson, 282-3225.

CHILD CARE, pre-school age, 725 Florida Dr. SE Sieglitz. 268-8756. '63 FORD, 9-passenger Country Sedan, completely equipped, including air. Curry, 298-5038.

RUBBER HOSE, 11/2" or 2" diameter for irrigation Salazar, 877-2944.

CHARLES ATLAS exercise course, want to borrow Lesson 3 for a few days. Stark, 299-5953.

FOR RENT AFTER MAY 1, 3-bdr., den, carpeting, drapes, stove, refrigerator, AC, near shopping and Bases. Hansen, 898-3173.

CAMP TRAILER, 15', sleeps 5, w/stove and ice box. Cook, 299-7509.

LOST AND FOUND

LOST—Optically ground sunglasses w/black frames-gray fenses, Lady Elgin gold wrist watch, gold cuff link, man's billfold, Lady Timex watch w/silver-setting-black hand, check to order of Ins. Co. of N. Amer. a/c Murphy J. Landry, LOST AND FOUND, tel. 264-2757, Bldg, 610.

FOUND—Black w/white dots chiffon scraf, small personal Bible-Little Bible Ministry Saratora, Pa.; gold bracelet w/3 leaves on links. LOST AND FOUND, tel. 264-2757, Bldg. 610.

Sandia Base Plans Summer Program For Children; Enrollment May 9-13

A summer recreation program for children, ages 7 to 12, of military and civilian parents working on Sandia Base will be operated again this year by the Sandia Day School Nursery.

Program will largely follow the pattern established by the successful 1965 summer. The full-day curriculum will include controlled sports activities emphasizing a daily swimming period and providing for softball, gymnastics, basketball, horseback riding, and other suitable athletic programs for boys and girls in this age group. Folk dancing, arts and crafts, and sports clinics will also be scheduled as classroom participation activities along with required rest periods.

This summer program will start June 6 and end Aug. 26. Minimum enrollment period is four weeks. There will also be an eight week, 10 week, and 12 week contract for those parents who desire to have their children in the program for longer periods.

Registration is May 9-13. Enrollment will be limited to 75 children. Tuition charges are \$50 per month for one child,

New Handbook on Planning Conferences Now Available

Sandia employees involved in planning seminars and similar meetings will find a new handbook prepared by Employee Training and Education Division 3132 a time-saving aid.

Entitled "Planning and Conducting Conferences," the handbook covers step by step procedures for coordinating and conducting conferences, sample formats for forms and correspondence, and worksheets and checklists for supplies, equipment, and audio visual aids.

Because conferences involve investments of time and money, the details and mechanics of conference procedure must be arranged to insure that the meetings run smoothly and the goals are achieved, according to Mrs. Jean Gillette, who compiled the material for the handbook.

Contents are arranged to cover the planning of major activities encountered in coordinating and running a conference. Special consideration is given to conferences, seminars, colloquia, and symposia jointly sponsored and/or attended by representatives of industry, Atomic Energy Commission, and the Armed Services.

Checklists on conference preplanning for the regional or national committee and conference planning for the local committee are included in worksheet format. Last minute checklists for conference facilities and functions are in the handbook's appendix.

The 94-page handbook (SC-R-66-827) may be obtained by calling the Technical Information Distribution Section 3415-3 on tel. 264-5454.

\$35 per month for a second child in the same family, and \$20 per month for a third child in the same family. The class day will begin at 7 a.m. and end at 5 p.m. Lunch is included in the tuition charge. An experienced staff of four, headed by a Physical Education Specialist from the Albuquerque Public Schools, has been assembled to direct the program.

All interested parents are urged to register their children during the week of May 9-13. For further information call or visit the Day School Nursery, Bldg. 1851, tel. 264-1297 or 264-1785.

ASTME Conference Honors E. S. Roth; Tech Papers Given

The forthcoming 1966 ASTME Engineering Conference and Tool Exposition (April 18-22 in Detroit) will include participation by several Sandians.

E. S. Roth (2565) will be presented the society's annual Gold Medal Award. This is given for outstanding service through published literature, technical writing, or paper dealing with tool or manufacturing engineering. In addition, Mr. Roth will present a paper entitled "Functional Gaging with Optical Projectors."

Lee Stinnett (2563) will present a technical paper on "The Manufacturing Engineer and Value Engineering."

G. L. Morrisroe (2522) will be chairman of a session on "More Uses of Computers as a Tool." During the conference, Mr. Morrisroe will also attend executive committee meetings of the Information Systems subdivision. He is the group's national chairman.

The conference is expected to attract more than 40,000 persons with some 500 companies displaying new equipment during the five-day exposition.

Sympathy

To Julian P. Sanchez (3341) for the death of his father Mar. 19 in Albuquerque.

To Lora (1130) and Wence Duben (2453) for the death of Lora's mother Mar. 11 in Albuquerque.

To James L. Foreman (2555) for the death of his father Mar. 24 in Oklahoma. To J. M. Sanchez (2522) for the death of his father Mar. 25 in Albuquerque.

To Elizabeth Rainey (4220/4230) for the death of her mother Mar. 26 in Albuquerque.

To W. D. Huff, Jr. (2411) for the death of his father Mar. 27 in Springfield, Mo. To C. K. Hostetler (2413) for the death of his mother Mar. 20 in Pennsylvania.



RECENT VISITORS—Accompanying the Atomic Energy Commission's General Advisory Committee on a routine orientation visit to Sandia Laboratory last Tuesday were AEC Commissioner Gerald F. Tape and Brig. Gen. Delmar L. Crowson, USAF, Director of the AEC's Division of Military Applications. Shown chatting outside of Bldg. 892 after a briefing session are (I to r) R. C. Fletcher, Vice President 5000; Gen. Crowson; Commissioner Tape; and Sandia President S. P. Schwartz.



A 900-YEAR-OLD CUSTOM is observed daily on Sandia Base when retreat ceremonies are conducted at 5:30 p.m. at the Base flagpole on the parade grounds. Preparing to fold the Post flag after it was lowered are (I to r) Pvt. John S. Heath, Sgt. David S. Pancake, and Pvt. William D. Scarlett, all of the Military Police Company of the U.S. Army Element.

900-Year-Old Military Custom Observed Daily on Sandia Base

Every evening at 5:30 p.m. an official ceremony is staged at the parade grounds on Sandia Base. This ceremony may be seen or heard by Sandia Laboratory employees who wish to render the proper courtesy to the national colors and the 900-year-old military custom of the end-of-day "retreat."

Daily retreat ceremony consists of lowering the American flag at the end of the day with appropriate music and respect by civilian and military personnel.

The ceremony starts with the playing of "Retreat," on the last note of which a gun is fired and "To the Color" is played. As the "To the Color" music comes over the loud speakers on the parade grounds and at other locations on the Base, the flag is gently lowered so that it can be caught by one of the Military Police color guards on the last note of music.

Civilian personnel on Sandia Base, who are outside a building and within sight of the national colors on the Base flagpole or within hearing distance of the retreat ceremony music, may render the proper respect by facing the flag or music, standing at attention, and placing the right hand over the heart during the playing of "To the Color." Civilian attired men wearing a hat should hold it over their heart with the right hand. These positions should be maintained until the last note of music.

If in a car you should stop the vehicle, get out, and render the courtesy. In the case of buses, the vehicle should be stopped and one person should get off to render the courtesy while the remaining passengers sit at attention.

The size of the United States flag flying from the Base flagpole during daylight

Head Injury Bumps Sandia Safety Record

On March 21, a Sandia Laboratory employee sustained a head injury when he stooped over to move a wastebasket and bumped his head on an open door of a small wooden cabinet over the desk.

Although he experienced some pain following the incident, he reported that pain quickly eased. The following morning he complained of a headache and pain. The recommended treatment was two day's rest.

At the time of the accident, Sandia Laboratory employees had worked 11 days, or 385,000 hours without a disabling inhours varies with the occasion and weather conditions. The Post flag, which measures 10 by 19 feet, is normally flown except on holidays and during inclement weather. The 20 by 38-foot Garrison flag is flown on 19 designated holidays unless weather conditions interfere. The Storm flag, five by nine and a half feet, is flown during stormy and windy weather.

The Military Police Company of the U.S. Army Element is in charge of retreat ceremony on Sandia Base. Normally three enlisted men and the duty officer conduct the ceremony. When the Garrison flag is flown, this number is increased to 12 enlisted men to properly handle and carry the 760-square-foot "Old Glory."

Sandia's Safety Scoreboard

Sandia Laboratory:
15 DAYS
525,000 MAN HOURS
WITHOUT A
DISABLING INJURY

Livermore Laboratory:
97 DAYS
494,600 MAN HOURS
WITHOUT A
DISABLING INJURY